WHAT IS CLAIMED IS:

1. A driving apparatus comprising:

a rotor rotatable about a rotational axis and having a cylindrical magnet portion whose outer circumferential surface are divided along a circumferential direction into a plurality of differently magnetized portions;

at least an outer magnetic pole portion formed extending in a direction parallel to said rotational axis of said rotor, and facing said outer circumferential surface of said magnet portion;

an inner magnetic pole portion formed opposingly to said outer magnetic pole portion, and facing an inner circumferential surface of said magnet portion; and

a coil for magnetically exciting said outer magnetic pole portion and said inner magnetic pole portion, said coil being arranged along a direction of said rotational axis of said rotor;

wherein said rotor can be selectively held at one of three stop positions, and a condition of $-0.3X + 0.72 < Y$ is satisfied where Y is a ratio of a central angle of each outer magnetic pole portion relative to a central angle of each magnetized pole in said magnet portion, and X is a ratio of a circumferential length of each magnetized pole in said magnet portion relative to a thickness of said

magnet portion in its radial direction.

2. A driving apparatus according to claim 1, further comprising a regulating member, said regulating member regulating a rotational range of said rotor such that the rotational range includes regions in which directions of attractive force due to magnetic force acting between said magnet portion of said rotor and said outer magnetic pole portion are opposite to each other, but does not include a region in which a center of said magnetized pole in said magnet portion faces a center of said outer magnetic pole portion.

3. A light-amount regulating apparatus comprising:

a rotor rotatable about a rotational axis and having a cylindrical magnet portion whose outer circumferential surface are divided along a circumferential direction into a plurality of differently magnetized portions;

an output member, said output member being actuated according to rotation of said rotor;

at least an outer magnetic pole portion formed extending in a direction parallel to said rotational axis of said rotor, and facing said outer circumferential surface of said magnet portion;

an inner magnetic pole portion formed opposingly to said outer magnetic pole portion, and facing an inner circumferential surface of said magnet portion;

a coil for magnetically exciting said outer magnetic pole portion and said inner magnetic pole portion, said coil being arranged along a direction of said rotational axis of said rotor;

a plate having an aperture portion; and

a light-amount regulating member for changing the amount of light passing through said aperture portion, said light-amount regulating member being driven by said output member to advance toward or retract from said aperture portion of said plate;

wherein said light-amount regulating member can be selectively held at one of three stop positions, and a condition of $-0.3X + 0.72 < Y$ is satisfied where Y is a ratio of a central angle of each outer magnetic pole portion relative to a central angle of each magnetized pole in said magnet portion, and X is a ratio of a circumferential length of each magnetized pole in said magnet portion relative to a thickness of said magnet portion in its radial direction.

4. A light-amount regulating apparatus according to claim 3, wherein said plate is provided

with a guide groove which engages with said output member to restrict an actuation range of said output member, and said guide grove is formed such that the rotational range includes regions in which directions of attractive force due to magnetic force acting between said magnet portion of said rotor and said outer magnetic pole portion are opposite to each other, but does not include a region in which a center of said magnetized pole in said magnet portion faces a center of said outer magnetic pole portion.

5. A light-amount regulating apparatus according to claim 3, wherein said rotor is selectively rotated in one of opposite directions according to a direction of current supplied to said coil with the stop position of said rotor at the time when no current is supplied to said coil being a boundary.

6. A light-amount regulating apparatus according to claim 3, wherein said outer magnetic pole portion is shaped into a tooth-shaped structure extending in a direction parallel to said rotational axis of said rotor by providing nicks extending from a tip portion of a cylinder.

7. A light-amount regulating apparatus

according to claim 3, wherein one end of said rotational axis of said rotor rotatably engages with a hole portion formed at a place on said plate away from said aperture portion of said plate, and the other end of said rotational axis of said rotor rotatably engages with a hole portion formed at a central portion of said inner magnetic pole portion.

8. A lens driving apparatus comprising:

a rotor rotatable about a rotational axis and having a cylindrical magnet portion whose outer circumferential surface are divided along a circumferential direction into a plurality of differently magnetized portions;

an output member, said output member being actuated according to rotation of said rotor;

at least an outer magnetic pole portion formed extending in a direction parallel to said rotational axis of said rotor, and facing said outer circumferential surface of said magnet portion;

an inner magnetic pole portion formed opposingly to said outer magnetic pole portion, and facing an inner circumferential surface of said magnet portion;

a coil for magnetically exciting said outer magnetic pole portion and said inner magnetic pole portion, said coil being arranged along a direction

of said rotational axis of said rotor;

a plate having an aperture portion; and

a lens for changing a focal length of a light beam passing through said aperture portion, said lens being driven by said output member to advance toward or retract from said aperture portion of said plate;

wherein said lens can be selectively held at one of three stop positions, and a condition of $-0.3X + 0.72 < Y$ is satisfied where Y is a ratio of a central angle of each outer magnetic pole portion relative to a central angle of each magnetized pole in said magnet portion, and X is a ratio of a circumferential length of each magnetized pole in said magnet portion relative to a thickness of said magnet portion in its radial direction.

9. A lens driving apparatus according to claim 8, wherein said plate is provided with a guide groove which engages with said output member to restrict an actuation range of said output member, and said guide grove is formed such that the rotational range includes regions in which directions of attractive force due to magnetic force acting between said magnet portion of said rotor and said outer magnetic pole portion are opposite to each other, but does not include a region in which a center of said magnetized pole in said magnet portion faces a center of said outer magnetic pole portion.